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PATENT

Attorney Docket No.: A-60010-1/RFT/DLR

#6  
AD

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

CHAN et al.

Serial No. 10/076,213

Filed: February 12, 2002

For: *Dnase Liquid Solutions*

Examiner: NOT ASSIGNED

Group Art Unit: 1651

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Marjorie Jost

INFORMATION DISCLOSURE STATEMENT

Assistant Commissioner for Patents  
Washington, DC 20231

Sir:

In satisfaction of the duty of disclosure under 37 C.F.R. § 1.56, and in accordance with the provisions of 37 C.F.R. §§ 1.97 and 1.98, Applicants wish to draw the attention of the U.S. Patent and Trademark Office to the references cited on the accompanying form PTO-1449. Since copies of these references were provided either by Applicants or the Examiner in the following related U.S. Application – Serial No. 08/696,955, filed December 3, 1996 and issued as U.S. Patent No. 6,383,788 on May 7, 2002 – upon which the instant application relies for its priority date, in accordance with 37 C.F.R. § 1.98(d), no copies of these references are enclosed.

None of the foregoing references are believed to disclose the invention as claimed.


Nothing herein shall constitute an admission concerning the contents of any of the cited

references, nor shall the inclusion of a reference herein be considered an admission that the reference constitutes prior art against the invention claimed in the above-identified application. Submission of the present document shall not be construed as an admission that a search has been made or that better art does not exist.

As far as in known to the undersigned, this Information Disclosure Statement is being filed within three months of the filing date of a national application, within three months of the date of entry of a national stage, or before the mailing date of a first Office Action on the merits as set forth in 37 C.F.R. § 1.97(b), and therefore no fee is required. While no fee is believed to be due, if this belief is in error the Commissioner is authorized to charge any fees which may be required, or credit any overpayment to Deposit Account No. 502319 (Our Order No. A-60010-1/RFT/DLR).

Respectfully submitted,  
DORSEY & WHITNEY LLP

Dated: 8/1/02  
Four Embarcadero Center, Suite 3400  
San Francisco, CA 94111-4187  
Telephone: (415) 781-1989  
Facsimile: (415) 398-3249

BY:   
Richard F. Trecartin, Reg. No. 31,801  
Filed under 37 C.F.R. § 1.34(a)

Approved for use through 10/31/2002. OMB 0651-0031

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Substitute for form 1449A/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)				Complete if Known		RECEIVED  AUG 09 2002  TECH CENTER 1600/2900
				Application Number	10/076,213	
				Filing Date	February 12, 2002	
				First Named Inventor	CHAN, Hak-Kim	
				Group Art Unit	1651	
				Examiner Name		
				Attorney Docket Number	A-60010-1/RFT/DLR	
Sheet	1	of	4			

## U.S. PATENT DOCUMENTS

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**FOREIGN PATENT DOCUMENTS**

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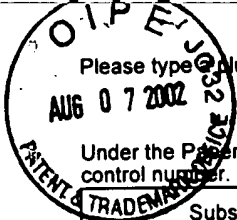
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**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

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**Complete if Known**

Application Number	10/076,213
Filing Date	February 12, 2002
First Named Inventor	CHAN, Hak-Kim
Group Art Unit	1651
Examiner Name	
Attorney Docket Number	A-60010-1/RFT/DLR

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**OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	C1	ARAKAWA, T., et al., "Stabilization of Protein Structure by Sugars," <i>Biochemistry</i> , 21:6436-6544 (1982).	
	C2	BACK, J.F., et al., "Increased Thermal Stability of Proteins in the Presence of Sugars and Polyols," <i>Biochemistry</i> , 18(23):5191-5196 (1979)	
	C3	BELL, J.H., et al., "Dry Powder Aerosols I: A New Powder Inhalation Device," <i>Journal of Pharmaceutical Sciences</i> , 60(10):1559-1564 (1971).	
	C4	BROADHEAD, J., et al., "The Spray Drying of Pharmaceuticals," <i>Drug Development and Industrial Pharmacy</i> , 18(11 & 12):1169-1206 (1992).	
	C5	CIPOLLA, D., et al., "Characterization of Aerosols of Human Recombinant Deoxyribonuclease I (rhDNase) Generated by Jet Nebulizers," <i>Pharmaceutical Research</i> , 11(4):491-498 (1994).	
	C6	CIPOLLA, D.C., et al., "Assessment of Aerosol Delivery Systems for Recombinant Human Deoxyribonuclease," <i>S.T.P. Pharma Sciences</i> , 4(1):50-62 (1994).	
	C7	DOUVAS et al., "Some Effects of Calcium and Magnesium Ions on the Activity of Bovine Pancreatic Deoxyribonuclease A" (1975) <i>Biochem. Biophys. Acta</i> , 395(2), Pages 201-212.	
	C8	EICHHORN et al. (1969) <i>J. Biol. Chem.</i> 244(4), "The Interaction of Metal Ions with Polynucleotides and Related Compounds", pp. 937-942	
	C9	FRANKS, F., et al., "Materials Science and the Production of Shelf-Stable Biologicals," <i>BioPharm</i> , pp. 38-42 & 55 (1991).	
	C10	GEKKO, K., "Calorimetric Study on Thermal Denaturation of Lysozyme in Polyol-Water Mixtures," <i>J. Biochem</i> , 91:1197-1204 (1982)	
	C11	GRANDERTON, D., "The Generation of Respirable Clouds Form Coarse Powder Aggregates," <i>Journal of Biopharmaceutical Sciences</i> , 3(1/2):101-105 (1992)	
	C12	HUBBARD, R.C., et al., "A Preliminary Study of Aerosolized Recombinant Human Deoxyribonuclease I in the Treatment of Cystic Fibrosis," <i>The New England Journal of Medicine</i> , 326(12):812-815 (1992).	
	C13	KASSEM, N.M., et al., "The Effect of Air Flow and Carrier Size on the Characteristics of an Inspirable Cloud," <i>Chelsea Department of Pharmacy, King's College, London SW3 6LX</i> 14P in Auty, R., et al. <i>Br. J. Dis. Ches.</i> , 81:371-380 (1987); and in Richards, R., et al., <i>Eur. Respir. J.</i> , 1:896-901 (1988).	
	C14	KASSEM, N.M., et al., "The Influence of Carrier Surface on the Characteristics of Inspirable Powder Aerosols," <i>Chelsea Department of Pharmacy, King's College, London SW3 6LX</i> , 11P in Staniforth, J., et al., <i>J. Pharm. Pharmacol.</i> , 34:141-145 (1982); and in Kassem, N.M., et al., <i>J. Pharm. Pharmacol.</i> , 41(Supp.):13P (1989)	
	C15	KIM, C.S., et al., "Particle Deposition in Bifurcating Airway Models with Varying Airway Geometry," <i>J. Aerosol Sci.</i> , 25(3):567-581 (1994).	
	C16	LIAO, Ta-Hsiu, et al., "Bovine Pancreatic Deoxyribonuclease A, Isolation of Cyanogen Bromide Peptides; Complete Covalent Structure of the Polypeptide Chain," <i>The Journal of Biological Chemistry</i> , 248(4):1489-1495 (1973).	

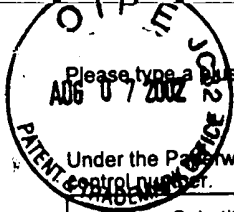
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Application Number	10/176,213
Filing Date	February 12, 2002
First Named Inventor	CHAN, Hak-Kim
Group Art Unit	1651
Examiner Name	
Attorney Docket Number	A-60010-1/RFT/DLR

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Sheet 3 of 4

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	C17	LIZARRAGA et al., "Multiple Conformations of Deoxyribonucleic A, Their Separation at Alkaline pH and Low Ionic Strength in the Presence of Ca2+" (1979) Biochem. Biophys. Acta 579(2), Pages 298-302	
	C18	LIZARRAGA et al., "The Role of Ca2+ on pH-Induced Hydrodynamic Changes of Bovine Pancreatic Deoxyribonuclease A" (1978) J. Biol. Chem., 253(9), Pages 3191-3195.	
	C19	LOURENCO, R.V., et al., "Clinical Aerosols, II. Therapeutic Aerosols," Arch. Intern. Med, 142:2299-2308 (1982).	
	C20	LUNDBLAD, et al., "Purification and Partial Characterization of Deoxyribonuclease I from Bovine Parotid Gland," J. Dent. Res., 56(3):320-326 (1977).	
	C21	MARKEY, F., "Rapid Purification of Deoxyribonuclease I Using Fast Protein Liquid Chromatography," Elsevier Science Publishes V.V., Federation of European Biochemical Societies, 167(1):155-159 (1989).	
	C22	MUMENTHALER, M., et al., "Feasibility Study on Spray-Drying Protein Pharmaceuticals: Recombinant Human Growth Hormone and Tissue-Type Plasminogen Activator," Pharmaceutical Research, 11(1):12-20 (1994).	
	C23	NEFSKY, B., et al., "Preparation of Immobilized Monomeric Actin and its Use in the Isolation of Protease-Free and Ribonuclease-free Pancreatic Deoxyribonuclease I," Eur. J. Biochem., 179:215-219 (1989).	
	C24	PRICE et al. (1969a) J. Biol. Chem., 244(4), "Properties of Chromatographically Purified Bovine Pancreatic Deoxyribonuclease", pp. 917-923.	
	C25	PRICE et al. (196b) J. Biol. Chem., 244(4), " Alkylation of a HisPancreatidine Residue at the Active Site of Bovine Pancreatic Deoxyribonuclease", pp 924-928.	
	C26	PRICE et al. (196c) J. Biol. Chem., 244(4), " Effect of Devalent Cations on the Reduction and Re-Formation of the Disulfide Bonds of Deoxyribonuclease", pp 929-932.	
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	C29	SCHMID, R.D., "Stabilised Soluble Enzymes," Advances in Biochemical Engineering, 12:42-118 (1979).	
	C30	SHAK, S., et al., "Recombinant Human DNASE I Reduces the Viscosity of Cystic Fibrosis Sputum," Proc. Natl. Acad. Sci. USA, 98:9188-9192 (1990)	

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Group Art Unit	1651
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Attorney Docket Number	A-60010-1/RFT/DLR
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Sheet	4	of	4
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